

## SURVEY OF BIRDS USING DUMAS BAY PARK

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### INTRODUCTION

Birds are the most conspicuous and easily enumerated animals, and their diversity and abundance is somewhat representative of the diversity and abundance of animals in general in terrestrial habitats. The number of species present will be proportional to the diversity of habitats present, and the number of individuals present will be proportional to both the diversity of habitats and the size of the area censused. This is especially true during the breeding season, when most species of birds are territorial. It is thought that the number of pairs per unit area during this period is indicative of the number of birds that can be supported in the area by the food resources available. Thus a breeding-season census will be a good indicator of the importance of a given area to birds and probably thus to other animals, all of which are harder to census for population estimates.

### METHODS

During the spring and early summer of 1971 an attempt was made to determine the species of birds using Dumas Bay Park and their abundance. Four censuses were made during this period--29 April, 1 May, 20 May, and 20 June 1971. Each of these lasted from two to three hours (until the observer had covered the entire park), and all were made at the period of maximum land-bird activity, in the morning, between 0500 and 1030 P.S.T. Some birds were observed on a reconnaissance visit on 31 March, and these are included in the table for comparative purposes; the record for this date is to be considered incomplete. Each of the four censuses (Table 1) was conducted during cool and overcast weather except that of 1 May, which was made during a warm, sunny period. Wind velocity was light on all days and did not affect censusing adversely, but a light rain on 20 June may have done so. Weather conditions differed enough so that all the censuses are not directly comparable.

## RESULTS

Eighty-three species of birds were recorded during the four censuses, and an additional species was present on 21 March. To this total of 84 can be added another 51 species, reported in the park or within a few blocks of it from August 1963 to September 1969 by Mrs. Evelyn Peaslee<sup>(Table 2)</sup>. Thus at least 135 species have been reported from the area, and certainly others would be expected to occur; for example, we recorded 12 species not seen by Mrs. Peaslee. This is a list of about the size to be expected from the diversity of habitats present.

Unfortunately, a complete seasonal picture is not available. Our period of study allowed assessment of late-winter, spring, and early-summer species, and we have no information about populations during fall migration or midwinter, both periods of heavy use of Puget Sound by water birds. Much larger numbers of both species and individuals of water birds than those recorded on 21 March and 29 April would be expected in the period of November to February. Also, the numbers of some of these species fluctuate on a day-to-day basis with weather and water conditions, and many more census periods would be necessary to document completely the avifauna utilizing the park area. However, much can be seen from the data available.

Clearly, the area is heavily used by water birds in March and April, their numbers declining in early summer. The terrestrial species show the opposite trend, with their numbers at a low point during the winter, a rise in numbers during spring migration, and a drop to the summer levels. I suspect there were as many individuals present on 20 June as on 20 May, or more, but the rain on 20 June may have caused a reduction of singing and foraging activity, the best indication of numbers, on that date.

The birds using the area can be assorted into several ecological categories (some species will fall in more than one category). First are those using the open salt water. These include 12 species--the loons, the grebes, the diving ducks (goldeneye, Bufflehead, scaup, scoters, and Red-breasted Merganser) and the guillemot. These species feed on bottom- and midwater-fishes and invertebrates, taking in many cases whatever is available. Some are specialists on certain categories of food within these types, however.

Another category is that of birds using the mud flats and beach. This includes the heron, brant, shorebirds and gulls, 12 species in total. The brant is a herbivore, feeding on the eelgrass that is common in the low intertidal zone. The heron is a fish-eater, the shorebirds take small invertebrates, and the gulls are opportunistic, taking fish, invertebrates, garbage and carrion.

Still another group is that containing the marsh-frequenting species. This group of 10 species includes the heron, the dabbling ducks (Mallard and teals), Hooded Merganser, the two rails, Spotted Sandpiper, Belted Kingfisher and Red-winged Blackbird. The last species breeds in the marsh but may forage in the uplands. These are all invertebrate-feeders (primarily insects), the merganser taking fish as well and the heron and kingfisher specializing on them. Certain land birds utilize the brushy thickets of the park. These are the California Quail, Ring-necked Pheasant, Bewick's Wren, Orange-crowned Warbler, Rufous-sided Towhee, Oregon Junco, and the three species of sparrows, totalling 9 species. These are all seed-eaters except the insectivorous wren and warbler; all feed their young insects, which they are thus capturing during the breeding season.

In the deciduous woods (red alder, bigleaf maple) another group of birds can be found: Downy Woodpecker, Traill's Flycatcher, Black-capped Chickadee, Winter Wren, Robin, Swainson's Thrush, Golden-crowned Kinglet, Audubon's, Townsend's and Wilson's Warblers, Western Tanager and Pine Siskin. These are primarily insect-eaters (pigeon eats fruit, siskin seeds). This group of 18 species is the largest category of birds using the park, which is not surprising, as the coniferous forest is well-developed (though small in extent) and is the dominant terrestrial habitat in western Washington.

A number of species cannot be so easily categorized. The hummingbird needs flowers for a nectar source; it breeds wherever these grow. The swallows need open air in which to forage for insects, and nest sites (hollow trees for Violet-green and Tree, vertical banks for Rough-winged, and ledges, usually in buildings, for Barn). The crow nests anywhere there are trees. The waxwing, like the hummingbird, is a specialist, in this case on fruits. But, again like the hummingbird, it feeds insects to its young, and during some parts of the year it is primarily an insectivore; its needs appear to be satisfied in any forest habitat. A few other species (migrants) are considered so unimportant

to the area's economy that they are not categorized.

#### BIRDS AND THE PARK

The changes proposed in the plan for developing Dumas Bay Park would involve primarily birds of three habitats--the open salt water, the shore, and the fresh-water marsh. The boat-launching facility, as presently planned with accompanying parking lot, would effectively reduce the shoreline of the bay by about half. This reduction plus the heavy use by boat-owners expected would effectively prevent the birds of the shore from using the bay. The birds of the open salt water would be continually frightened out of the area occupied by the boat channel and would eventually not use the area during the period of heavy human use. However, the populations of these species are highest when there is least use of such facilities by people, during the winter.

More serious would be the reduction of the size of the fresh-water marsh and the concomitant decrease of birds of this habitat. In this case, as in the others, there are two factors--the reduction in availability of the habitat and the intensified use by the public. Both of these factors would serve to decrease or eliminate populations of marsh species. It is clear that the presently proposed development of Dumas Bay would reduce the value of the area to birds, and presumably to other wildlife. Preserving the park with its natural areas relatively intact would allow the present fauna to persist and furnish a near-urban park of great value for non-consumptive recreation and education.

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